

REMARKS

Reconsideration and allowance is requested in consideration of the following remarks and amendments. Claims 1-24 are currently pending in connection with the present application. Claims 1, 13, 22 and 23 are independent claims. By this amendment, claim 22 has been amended. Support for the minor amendments to claim 22 are all found in original claim 22, as the content of the claim was simply rearranged. There are no new matters or issues. Applicant traverses the rejection set forth in the Office Action dated February 8, 2006.

Priority Documents

Applicant acknowledges and thanks the Examiner for acknowledgement of priority under 35 U.S.C. §119, and further thanks the Examiner for the acknowledgement of receipt of all of the necessary priority documents as shown in the Office Action dated February 8, 2006.

Information Disclosure Statements

Applicant acknowledges and thanks the Examiner for the careful consideration of all of the references listed in the Information Disclosure Statements filed December 5, 2003 and January 20, 2006.

Drawings

Applicant acknowledges that the drawings filed on December 5, 2003 have been accepted.

CLAIM OBJECTIONS

The Examiner has objected to claims 13 and 22 as containing substantially duplicated subject matter under 37 C.F.R. §1.75. While the Applicant disagrees that the preamble provides no patentable weight, Applicant has amended claim 22 to incorporate the subject matter of “recognizing a behavior of the object based on the obtained object information” to overcome the Examiner’s objection and to expedite prosecution only. Withdrawal of the objection is respectfully requested.

DESCRIPTION OF AN EXAMPLE EMBODIMENT

In accordance with the present application, an example embodiment is directed to an apparatus and/or method for extracting objects from an image, capable of performing object recognition in real-time and/or having low memory requirements. FIG. 3 illustrates a method in accordance with one example embodiment. The example embodiment processes image data from a camera module 2 on a pixel-by-pixel basis (S1). The image data is converted from UY/VY format to HSV format (S2). Thereafter, the system determines whether each pixel is a part of an object (S3) and removes any noise from the pixel data (S4). If the data is associated with an object (S5), then the object information is updated to store the information associated with the image data. Thereafter, the next pixel is processed (S8).

PRIOR ART REJECTIONS

35 U.S.C. §103(a) Galal/Dye Rejection

Claims 1, 7, 13-15 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Galal (U.S. Patent No. 6,380,946) in view of Dye (U.S. Patent No. 5,909,219). Applicant respectfully traverses this rejection.

Galal is directed to a method of storing font information and clipping data in a reduced memory format so as to reduce memory requirements and provide improved graphics performance using bit-packed fonts.¹ FIG. 2 illustrates a comparison between storing a font character either as byte-aligned or bit-packed font data. In particular, FIG. 2 illustrates the wasted memory in the byte-aligned font format versus the bit-packed font storage format. FIG. 3 illustrates a method of storing clipping information for a given font character. The control word 340, containing clipping information, includes a graphics address field GADR 310 and various clipping information including a width 320, a height 330, and various other characteristics.² Using the cited techniques, Galal seeks to enhance the hardware clipping ability of graphics devices and thereby improve clipping performance.

Dye is directed to a method of converting image output from a video signal to a graphics RGB signal, while providing support for identifying transparent regions having resolution resizing capabilities.³ The output is resized as necessary by a resize engine, thus providing proper resolution for the video image and also providing transparency support if the image is

¹ Galal, FIG. 2; Col. 1, lines 40-42; and Col. 4, lines 11-18.

² Galal, Col. 4, lines 18-29.

³ Dye, Col. 2, lines 11-24; and Col. 3, lines 50-63.

shrunk.⁴ A color compare logic function isolates any regions of the video image that should be made transparent using a transparency bit and then allows for real-time resizing of the image.⁵

With respect to claim 1, Applicant submits that neither Galal nor Dye, either alone or in combination (even assuming *arguendo* that they could be combined, which Applicant does not admit), teach, suggest, or render obvious at least “an object determination section for determining whether or not each pixel is a part of an object to be extracted by comparing color information indicating a color of the pixel with a predetermined reference value for the object.”

First, contrary to that alleged by the Examiner, Galal fails to teach “determining whether or not each pixel is a part of an object to be extracted.” Instead, Galal teaches a method of encoding an entire font character in a bit-packed format. As is evident from FIG. 2, the entire font character, blank space and font space are stored in both the byte-aligned format and the bit-packed formats. Furthermore, contrary to that alleged by the Examiner, Galal fails to teach “comparing ... information ... with a predetermined reference value for the object.” In performing the packing process or the clipping process, Galal does not disclose any prior knowledge of data values associated with the font character or any other object.

Additionally, contrary to that alleged by the Examiner, Galal fails to teach the conditional limitation that “the pixel has been determined by the object determination section to be a part of the object to be extracted.” In particular, Galal fails to teach determining if any font character or other information is a part of the object to be extracted because all font data is stored. There is a distinct difference between identifying clipping area and extracting parts of an object. Clipping implies a removal of data, whereas claim 1 recites “... retaining coordinate data of the pixel as object information if the pixel has been determined ... to be part of the object to be extracted.”

⁴ Dye, Col. 11, lines 7-13.

Even assuming *arguendo* that Dye could be combined with Galal, Dye would still fail to make up for the deficiencies of Galal. Applicants note that Dye only identifies whether any object obstructs a field of view and places an image around the obstruction. Dye does not determine if a pixel is a part of an object.

Lack of Motivation to Combine

The alleged motivation cited by the Examiner for combining Galal and Dye to reject independent claims 1, 13 and 22, is “to provide an embedded transparency enabled bit in the destination pixel field and thus, subsequent use of the resized image for texture mapping or other transparency operations are simplified.”

Applicant asserts that the Examiner’s alleged motivation is based upon Applicant’s own disclosure and is therefore an improper use of hindsight. The Examiner merely viewed the present application and intended to select prior art containing “color pixel comparisons” without citing specific evidence of motivation to combine the references, other than providing conclusory statements regarding the motivation and obviousness. Accordingly, absent evidence of such motivation, a prima facie case of obviousness under 35 U.S.C. §103(a) has not been established and the rejection must be withdrawn.

Applicants direct the Examiner's attention to two recent cases decided by the Court of Appeals for the Federal Circuit (CAFC), *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed.Cir. 1999) and *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed.Cir. 2000). Both of these cases set forth very rigorous requirements for establishing a prima facie case of obviousness under 35 U.S.C. §103(a).

⁵ Dye, Col. 3, lines 54-58.

To establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the Applicants. The motivation suggestion or teaching may come explicitly from one of the following:

- (a) the statements in the prior art (patents themselves)
- (b) the knowledge of one of ordinary skill art, or in some cases,
- (c) the nature of the problem to be solved.⁶

In order to establish a prima facie case of obviousness under 35 U.S.C. §103(a), the Examiner must provide particular findings as to why the two pieces of prior art are combinable.⁷ Broad conclusory statements standing alone are not "evidence".

Neither Galal nor Dye teach or suggest combining their features to arrive at independent claim 1; nor does the Examiner cite any particular passage to provide evidence that such a combination would be obvious to one of ordinary skill in the art. On the contrary, the disclosed references seek to overcome differing problems and therefore do not constitute an obvious combination. Galal is directed to a method of reducing memory usage by font packing and identifying clipping regions, so as to reduce the data transfer between a graphics card and main memory. Dye is directed to a method of analyzing digital video to allow image overlay and to provide real-time image resizing with minimal color and content loss.

Given the distinct and differing problems solved by the references, neither reference provides any evidence, teaching or suggesting of any combination. Thus, it would not have been obvious to one of ordinary skill in the art to combine the teachings of Galal and Dye.

⁶ See *Dembiczak*, 50 USPQ at 1614 (Fed.Cir. 1999).

⁷ See *Dembiczak*, 50 USPQ2d at 1617.

Relying on common knowledge or common sense of a person of ordinary skill in the art without any specific hint or suggestion of this in a particular reference is not a proper standard for reaching the conclusion of obviousness.⁸

In view of the above arguments, Applicant asserts that the Examiner has not established the required motivation for combining the teachings of Galal and Dye and therefore fails to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a).

Accordingly, Applicant respectfully submits that neither Galal nor Dye, either alone or in combination, teach, suggest, or render obvious, each and every feature of independent claim 1. For somewhat similar reasons, independent claims 13 and 22 are also patentable (although claims 1, 13 and 22 should be interpreted solely based upon the limitations set forth therein). Therefore, Applicant respectfully request that the rejections of independent claims 1, 13 and 22, and dependent claims 7 and 14, be withdrawn.

35 U.S.C. §103(a) Galal/Dye/Trivedi/Deering Rejection

Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Galal in view of Dye and in further view of Trivedi (U.S. Patent No. 6,693,643) and Deering (U.S. Patent No. 6,417,861). Applicant respectfully traverses this rejection.

Applicant submits that none of the references teach or suggest at least “storing coordinate data of a pixel which has been determined to be a part of the object to be extracted as object information on a **object-by-object** basis” as recited in independent claim 23. The rejection directed at claim 23, fails to disclose any reference to extraction on an “object-by-object basis.”

⁸ See, *In re Sang Lee*, 61 USPQ 2d. 1430 (Fed. Cir. 2002).

The Examiner simply rejected this element in view of Galal and Dye without proper and distinct justification, or citing to any portion of either reference.

Furthermore, as previously described, with respect to claim 1, Galal and Dye do not disclose, teach, suggest, or render obvious at least the features of “comparing ... each pixel with a reference value provided for an object to be extracted to determine whether or not the pixel is part of the object to be extracted ...” as recited in claim 23.

Even assuming *arguendo* that Galal, Dye, Trivedi and Deering were combinable (which is not admitted), Applicant submits that none of Trivedi and Deering, either alone or in any proper combination, would cure the deficiencies of Galal and Dye with respect to at least the previously identified features of claim 23. Therefore, Applicant respectfully requests that the rejection of claim 23, under 35 U.S.C. §103(a), be withdrawn.

35 U.S.C. §103(a) Galal/Dye Dependent Rejection

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Galal in view of Dye and in further view of Kambayashi (U.S. Patent No. 4,841,289).

Claims 3 and 4 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Galal in view of Dye and in further view of Trivedi (U.S. Patent No. 6,693,643).

Claim 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Galal in view of Dye and in further view of Sasaki (U.S. Patent No. 6,967,660).

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Galal in view of Dye and in further view of Sasaki and Hyun (U.S. Patent No. 6,144,374).

Claims 8-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Galal in view of Dye and in further view of Taylor (U.S. Patent No. 6,967,664).

Claims 12, 16-18 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Galal in view of Dye and in further view of Deering (U.S. Patent No. 6,417,861).

Claim 24 stands rejected as being similar in scope to claim 17, however, the Examiner fails to note that claim 24 depends on claim 23, and therefore incorporates further subject matter. Therefore, claim 24 is improperly rejected.

Claims 19 and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Galal in view of Dye and in further view of Deering and Katsura (6,781,590). As previously described, Galal and Dye fail to disclose, teach, suggest or render obvious at least the features of “an object determination section for determining whether or not a signal is an object to be extracted by comparing color information dictating a color of the pixel with a predetermined reference value for the object; and an object information retaining section for retaining coordinate data of the pixel as the object information if the pixel has been determined by the object determination section to be a part of the object to be extracted” as recited in claim 1, and somewhat similarly recited in claim 13.

Dependent claims depend from independent claims 1 and 13 and therefore include the features of independent claims 1 or 13.

Even assuming *arguendo* that any of Galal, Dye, Kambayashi, Trivedi, Sasaki, Hyun, Taylor and Deering were combinable, which Applicant does not admit, Applicant submits that none of the cited references, either alone or in proper combination, would cure the deficiencies of Galal and Dye with respect to at least the previously identified features of independent claim 1 and 13.

Therefore, Applicant respectfully request that each of the rejections of the claims under 35 U.S.C. §103(a) be withdrawn. Furthermore, Applicant notes that claim 24 was improperly

rejected in light of claim 17, with the Examiner failing to account for the different subject matter contained in claim 23 and claim 13.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-24 in connection with the present application is earnestly solicited.

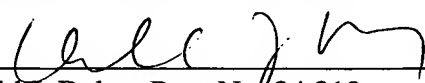
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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